

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Steven A. Bogen and Herbert H. Loeffler
Application No.: 09/702,298 Group: 1797
Filed: October 31, 2000 Examiner: Lyle Alexander
Confirmation No.: 3668
For: Automated Slide Stainer with Slide Housing (As Amended)

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AMENDED APPEAL BRIEF

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Sir:

This Appeal Brief is submitted pursuant to the Notification of Non-Compliant Appeal Brief mailed on September 18, 2009 (the Notification), and the Notice of Appeal received in the U.S. Patent and Trademark Office on June 2, 2009, and in support of the appeal from the final rejections set forth in the Office Action mailed on March 2, 2009 (the Office Action).

The Notification states that Section V, the summary of claimed subject matter, must identify and map all independent claims on appeal to the specification by page and line number. Section V has been amended to map the independent claims on appeal, claims 3 and 11, to the specification by page and line number. (Applicants have underlined the page and line numbers for convenience.) Per the Notification, only Section V as amended is being submitted.

V. SUMMARY OF CLAIMED SUBJECT MATTER (AMENDED)

Applicants' independent Claims 3 and 11 are directed to a microscope slide stainer and a method of staining microscope slides, respectively, as described in Applicants' specification at least from page 7, line 1, to page 8, line 4; from page 9, line 8, to page 13, line 19; and in Figures 1, 5, 6, and 11A. For convenience, both independent claims are reproduced here:

3. A microscope slide stainer comprising:

a plurality of slide cavities (formed by the slide frame housing 522 and frame base 514) into which microscope slides are inserted and into which liquids are dispensed, each cavity also containing a sufficient volume for liquid to cover a microscope slide (page 9, line 26, to page 10, line 5);

a liquid dispenser (FIG. 5, cartridge pump CP and dispensing assembly 500) including an orifice (538) decoupled from each cavity from which liquid is dispensed from above into each cavity (page 10, lines 12–24), said orifice (538) and each cavity being mounted on separate structures (slide rotor 504 and reagent rotor 506) that provide relative movement between the orifice and each cavity under microprocessor control (page 13, lines 9–19) so as to align the orifice over any selected cavity of the plurality of slide cavities (page 11, line 18, to page 12, line 2); and

a liquid aspirator (vacuum hose 544, vacuum bottle 572, and vacuum hose transport mechanism 570) decoupled from each cavity, said aspirator being capable of removing liquid from the selected cavity (page 12, line 16, to page 13, line 8).

11. A method of staining slides comprising:

mounting a plurality of slide cavities (formed by the slide frame housing 522 and frame base 514; page 9, line 26, to page 10, line 5) on a first structure (slide rotor 504; page 9, lines 12–23) and an orifice (nozzle tip 538) of a liquid dispenser (cartridge pump CP and dispensing assembly 500) on a second structure (reagent rotor 506; page 10, lines 12–24), the first and second structures being moveable relative to one another;

inserting a slide into one of the plurality of slide cavities, into which liquids can be dispensed, each cavity containing a sufficient volume for liquid to cover the slide (page 9, line 26, to page 10, line 5);

providing relative movement between the first and second structures to provide relative movement between the plurality of slide cavities and the orifice under microprocessor control to align the orifice with a slide in a selected one of the plurality of slide cavities (page 9, lines 8–11; page 11, line 18, through page 12, line 2);

dispensing liquid from above into the selected cavity through the orifice, said liquid also contacting said slide (page 11, line 18, to page 12, line 2); and

aspirating liquid from the selected cavity (page 12, line 16, to page 13, line 8).

As shown in Applicants' Figure 5 and described at least in page 9, line 26, to page 10, line 5, embodiments of the stainer include a plurality of slide cavities formed by slide frames 510 in a slide frame housing 522 and a frame base 514. The slide frames 510, which sit on a structure called a slide rotor 504, each hold several microscope slides in slide positions 512a–512e, as shown in Figure 6.

A dispensing assembly 500 dispenses liquids from cartridge pumps CP into the cavities in the frames 510 via an orifice (nozzle tip 538) shown in Figure 9 and described at least in page 10, lines 12–24. (As described at least in page 7, lines 1–10, Figure 1 shows another cartridge pump CP with a nozzle 5.) Because the cartridge pumps CP are mounted on a separate structure, i.e., reagent rotor 506, above the slide rotor 504, the nozzle tips 538/5 can be aligned over any of the slide cavities using a microprocessor (described at least in page 13, lines 9–19) that controls the assembly 500. When the nozzle tip 538/5 is aligned over the selected slide cavity, a dispensing station DP actuates the cartridge pump CP, causing liquid to drip (i.e., fall from above) from the nozzle 538/5 of the cartridge pump CP into the slide cavity as shown in Figure 9 and described at least from page 11, line 18, to page 13, line 8.

The dispensing assembly 500 also includes a liquid aspirator with an extendable vacuum hose 544 that sucks reagent out of a particular slide cavity and into a vacuum bottle 572, as shown in FIG. 11A and described at least from page 12, line 16, to page 13, line 8. Because the vacuum hose 544 is not coupled to the slide cavity, the slide rotor 504 can rotate to align a particular slide cavity with the aspirator.

Claim 10 recites further details of the liquid aspirator of Claim 1, namely, that the aspirator includes a vacuum bottle (vacuum bottle 572), a vacuum hose extending from the vacuum bottle (vacuum hose 544), and a vacuum hose transport mechanism “for bringing the end of the vacuum hose to the selected cavity” (vacuum hose transport mechanism 570). Claim

12 recites a corresponding method of aspirating liquid “by extending a vacuum hose to the selected cavity and collecting the liquid into a vacuum bottle.” Support for Claim 10 can be found at least from page 12, line 16, to page 13, line 8 of the application as filed.

Claims 17 and 18 recites a method of and complementary apparatus for “moving the cavities and a liquid aspirator relative to each other,” which can be achieved by rotating the slide rotor 504 to align a given cavity with the aspirator, as described above and in page 13, lines 9–19, of the application as filed.


Conclusion

Applicants respectfully submit that Section V as amended identifies and maps the independent claims on appeal, Claims 3 and 11, to the specification by page and line number. Applicants further maintain their arguments as in the Appeal Brief filed on August 28, 2009, regarding the rejection of all pending claims.

Accordingly, Applicants respectfully request entry of Section V as amended and withdrawal of the rejection of Claims 3–18 under 35 U.S.C. § 103(a).

Respectfully submitted,

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